



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/884,625	06/19/2001	Johann Engelhardt	LASP:114_US_	3038

7590 06/04/2003
Simpson, Simpson & Snyder, L.L.P.
5555 Main Street
Williamsville, NY 14221

EXAMINER

JOHNSTON, PHILLIP A

ART UNIT	PAPER NUMBER
----------	--------------

2881

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/884,625

Applicant(s)

ENGELHARDT ET AL.

Examiner

Phillip A Johnston

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other

Detailed Action

Claims Rejection – 35 U.S.C. 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,535,052 Jörgens, in view of Freeman, U.S. Patent No. 4,350,417

3. Regarding Claims 1,2, and 4-9, Jörgens (052) discloses a laser scanning microscope of the inverted type. Sensors are also provided on a pivotable arm that supports a housing. The housing holds a transmitted light condenser and folding mirror above the object stage, and protects against inadvertently looking into the laser light. The signals from both sensors are connected together in the sense of a logic AND circuit, The laser beam path is closed by the shutter (and the laser is released) only when both sensors signal a safe state. See Abstract.

Jörgens (052) also discloses that for good accessibility of the object space, the transmission illumination unit is pivotably arranged on the stand by means

of an arm. Furthermore, sensors are provided on the pivot joint of the arm and are coupled to the shutter for interruption of the laser beam. When the arm is pivoted away from the object, the laser is also interrupted. The sensors on the pivot joint and on the reflected light reflector slide are coupled to the shutter control via a logical AND gate, so that the laser beam is only released with the sensor of the reflector slide and the sensor of the pivot joint simultaneously produce a signal indicating the safe position. See Column 3, line 37-45.

Jörgens (052) further discloses that the position of the fully reflecting mirror (10) on the reflector slide (9), is monitored by a sensor. This sensor, in this case, consists of two magnets (21) that are received in two small bores in the reflector slide (9), and two probes (20) opposite the magnets, received on the guide of the reflector slide (9). If the magnets (21) and the probes (20) are positioned opposite each other, the resulting signal triggers a shutter in the beam path of the laser light and clears the beam path. Since only the switching position of the fully reflecting mirror (10) is monitored by magnets (21), the laser beam path remains interrupted for any other switching position of the reflector slide (9) or when this reflector slide (9) is not present. This sensor prevents eye damage when looking into the ocular tube (3). Including two magnets in the design of the safety device permits the failure of a sensor to be detected, so that the laser beam is interrupted even when a sensor fails to function. See Column 4, line 21-61. In particular, other sensor types can be used to produce the shutter signals. For example, microswitches or simple electrical contacts can be used. See Column 6, line 20-22.

It is implied herein that the use of a mirror coupled to a shutter, in accordance with Jörgens (052) above is equivalent to the "interruption device", of Claim 1, and Jörgens (052) use of a sensor for detecting whether the mirror coupled to a shutter is switched into or out of the beam path, is equivalent to "monitoring the state of the interruption device", and "indicating the position of the interruption device in or out of the light beam", as recited in Claims 1, and 2, respectively.

It is also implied that the use of a mirror coupled to a shutter in accordance with Jörgens (052), is equivalent to the "interruption device has a mechanical shutter", as recited in Claim 9.

Regarding Claims 3, and 10-27, Jörgens (052) as applied above does not disclose the use of an interruption device with at least two movable components, where the mechanical momentum generated by at least one moving component is compensated for by the motion of the at least another component, as recited in Claims 10 and 13. Freeman (417); however, discloses an apparatus for controlling the light intensity output from an arc lamp is provided, including displaceable light valve (mechanical shutter) means positionable in the light path intermediate said lamp and a projector output for the selective control of the intensity of the light passed to said output by the positioning of said light valve means; magnetically coupled clutch means having an output operatively coupled to said light valve means for controlling the positioning thereof and an input operatively coupled to a continuously rotating motor means; counter-torque means coupled to said magnetic clutch means output for resisting the rotation thereof and programmer means for selectively applying a control

signal to said magnetic clutch means for the control of the magnetic coupling between said input and output thereof in response to the voltage of said control signal, whereby the light valve is positioned at a position representative of the voltage of the control signal, which position is representative of a balance between applied torque transmitted by magnetic clutch means and the counter-torque. The magnetic clutch means may be a hysteresis clutch means having an essentially linear characteristic in the operative range whereby applied torque is linearly proportional to the voltage of the control signal. The counter-torque means may include a spring means coupled between the clutch means output and a fixed point. Said counter-torque means preferably provides a linear counter-torque. The light valve means may consist of a pair of overlapping co-linked, counter-rotating blades positioned between the arc lamp and the lens system of the projector. Each of the valve means blades may have an arcuately sided notch cut into the inner side thereof (as recited in Claim 3), so that said notch progressively widens to produce the desired variation in projected light intensity from no light being passed (an "off" position) to full lamp intensity projection. See Column 2, line 24-61.

It is implied herein that use of two shutter blades, one co-linked to the other via a magnetic clutch in accordance with Freeman (417), is equivalent to "an interruption device with at least two movable components, where the mechanical momentum generated by at least one moving component is compensated for by the motion of the at least another component", as recited in Claims 10, 13, and 27.

It is also implied that the use of a programmer to apply a control signals that the light valve is positioned at a position representative of the voltage control in accordance with Freeman, is equivalent to "monitoring means operatively arranged to monitor the intersection state of said shutter components", as recited in Claim 27.

Therefore, it would have been obvious to one of ordinary skill in the art that the scanning laser microscope of Jörgens (052) could be modified with the mechanical safety shutter of Freeman (417) to insure that the laser beam path to the eye is always interrupted when the laser is on.

Conclusion

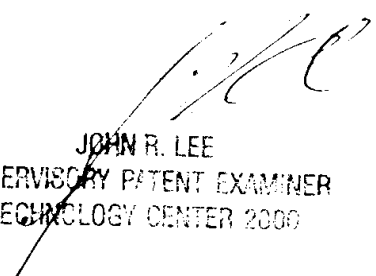
4. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (703) 305-7022. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor John Lee can be reached at (703) 308-4116. The fax phone numbers are (703) 872-9318 for regular response activity, and (703) 872-9319 for after-final responses. In addition the customer service fax number is (703) 872- 9317.

Art Unit: 2881

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.

PJ

May 27, 2003


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2000